REMARKS

Claims 1-21, 26-29 and 31-35 remain in the application. Claim 35 is newly added but does not add any new matter.

The Office Action rejected Claims 22-25 and 30 under 35 U.S.C. §101 as being directed towards non-statutory subject matter. Claims 22-25 and 30 have been cancelled.

The present invention is directed towards efficient processing and decryption of scrambled video data to allow a user to fast forward and decrypt the scrambled video without suffering performance issues. (Pg. 28, lns. 1 – 4). It accomplishes this by using storage information with all of the list of the descrambling keys embedded. (Pg. 27, lns. 21 – 25) It can also selectively choose to decrypt and display only certain frames. For example, it can choose to only decrypt and display I pictures (intraframe-coded picture) when fast forwarding because only I pictures can be drawn and displayed based solely on the data that it contains. Thus, B pictures (bidpirectional frame) and P pictures (predictive pictures) are not selected to be decrypted or displayed when fast-forwarding. (Pg. 49, lns. 3 – 8; Fig. 14).

The Office Action rejected Claims 1-8, 11-14, 22, 23, 26, 27, and 30-32 as being unpatentable over *Tsukahara et al.* (U.S. 6,920,222) in view of *Darshan et al.* (U.S. 7,106,749).

Tsukahara is directed towards allowing unauthorized viewers of a pay-per-view program the ability to watch parts of the program for a period of time in order to increase their propensity to subsequently order the pay-per-view program. (Abstract; Col. 2, lns. 61 – 67) It uses a partial viewing authorization information authorization information in conjunction to determine whether a user can partially watch the program. (Col. 6, lns. 54 – 58).

Darshan seeks to improve the playback performance of a scrambled content by using an index built during playback of the scrambled content. Thus when a trick mode is performed, a

trick mode parameter is determined based at least in part on the index built when the scrambled content is first played. The trick mode parameter may comprise any suitable parameter useful in performing a trick mode and typically comprises an indication of a location in at least partially scrambled data stream at which descrambling and playback are to begin or to continue. (Abstract; Col. 8, ln. 57 – Col. 9, ln. 12)

One highly relevant inquiry in making an evaluation under 35 U.S.C. §103 is "[t]he relationship between the problem which the inventor. . . was attempting to solve and the problem to which any prior art reference is directed." *Stanley Works v. McKinney Mfg. Co.*, 216 USPQ, 298, 304 (Del. D.C. 1981). Thus, in analyzing the prior art under Section 103 of the Act, we must clearly comprehend the problem addressed by the present inventors and that problem must be compared or contrasted, as the case may be, with the problems addressed by the prior art.

Tsukahara, is directed towards allowing unauthorized viewers of a pay-per-view program the ability to watch parts of the program for a period of time in order to increase their propensity to subsequently order the pay-per-view program. (Abstract; Col. 2, lns. 61 – 67). Thus, *Tsukahara* is not concerned with improving the processing efficiency of the playback of the pay-per-view program. Instead, *Tsukahara* is concerned with striking a balance between total viewability and non-viewability of a pay-per-view program. Preferably *Tsukahara* would show just enough of the pay-per-view program to entice the potential subscriber, but not enough so that the potential subscriber would be content to just view the pay-per-view program in its semi-descrambled state without subscribing to the pay-per-view program.

In contrast, the present invention is directed towards users who have already subscribed to the pay-per-view program. The present invention is directed towards efficient processing of secure video data to allow a user to fast forward through the secure video without suffering

performance issues. (Pg. 28, lns. 1 – 4). The present invention seeks to improve the quality of the pay-per-view program when the subscriber wants to, for example, fast forward through the pay-per-view program. Thus, while *Tsukahara* wants some form of image deterioration and crippling of the viewability of the pay-per-view program, the present invention would want a high image quality displayed for the selected images to be displayed when the pay-per-view program is fast forwarded.

> A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would be lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

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Furthermore, since *Tsukahara* advocates image deterioration in order to preserve the allure of subscribing to the pay-per-view program, *Tsukahara* actually teaches away from the present invention. The present invention seeks to increase the performance of the particular reproduction process in the storage device and does not seek to deteriorate the image quality. (Pg. 4, lns. 4 – 9)

Tsukahara also fails to disclose a "reception means for receiving the scrambled content and storage information, wherein (a) the scrambled content is a content which has been scrambled in units of frames so that the frames can be descrambled using descrambling keys that respectively correspond to each of the frames." In *Tsukahara*, there is no indication that the scrambled content is a content which has been scrambled in units of frames. *Tsukahara* only discloses that the coded media data is scrambled, but does not disclose that the coded media data should be scrambled based on the units of frames. Thus, even when the frequency of the correct decryption of the coded media data is adjusted, "the television receiver 35 can display partially

correct pictures so that a user can have only a feeling about the program as a whole." (Col. 8, lns. 22 – 24) This is because *Tsukahara* only wants the user to have a feeling about the program to entice the user to purchase the program. (Col. 2, lns. 62 – 67). It does not want the user to have the ability to completely watch the program or be able to enjoy it without paying for it.

In contrast, the present invention scrambles the content in units of frames. As can be seen in Figures 14, there are three types of pictures used, I pictures (intraframe-codec pictures), B pictures (bidirectional frame, and P pictures (predictive pictures). (Pg. 49, lns. 3 – 9; Figs 14). Each frame is converted into transport stream (TS) packets. Thus, for example, pictures I1, Is, I3, and I4 are converted into TSP1 to TSP4, TSP101 to TSP104, TSP201 to TSP204, and TSP301 to TSP 304 as seen in Figure 15. (Pg. 49, lns. 14 – 26).

Furthermore, *Tsukahara* fails to recite wherein "the storage information includes a list of the descrambling keys which includes all of the descrambling keys" or a "list extraction means for extracting the list of descrambling keys from the stored storage information." In *Tsukahara*, the ECM analyzer 32 decrypts the ECM using the work keys to retrieve the scrambling keys. *Tsukahara*, however, does not disclose that the ECM analyzer 32 extracts a list of descrambling keys. *Tsukahara* only extracts the descrambling keys and not a list of descrambling keys.

In the present invention, the scramble key list shows the scramble key associated with the TS packets as seen in Figure 7. For example, in Figure 7, the scrambling key associated with the leading one hundred TS packet is Ks1, the scrambling key associated with the TS packets from 101 to 200 is KS2., etc. (Pg. 41, lns. 15 – 23). Thus, the scrambling key list interpretation unit 212 extracts the scrambling key corresponding to the TS packet index from the scrambling key list held by the scrambling key list holding unit 203. It then passes it to the descrambling unit 211. The descrambling unit 211 descrambles one TS packet passed from the TS packet

extracting unit 210 using the scrambling key extracted by the scrambling key list interpretation unit 212. (Pg. 48, lns. 13 -24; Fig. 8).

Tsukahara also does not teach or suggest in the particular reproduction mode, "said list extraction means selectively extracts descrambling keys corresponding to the predetermined frames from the list of descrambling keys." *Tsukahara* only teaches that "by adjusting the frequency of correct decryption of the coded media data, that is, the frequency of the retrievals of the scrambling keys form [sic] the ECM by the ECM analyzer 32, the television receiver 35 can display partially correct pictures so that a user can have only a feeling about the program as a whole." (Col. 8, lns. 35 – 40) Thus, while it adjusts the frequency of the correct decryption of the coded media data, there is no indication as to the methodology it uses for adjusting the frequency. Furthermore, *Tsukahara* does not teach that the frequency should reflect certain portions of the coded media data, and more specifically certain frames of the coded media data. This is especially true considering that *Tsukahara* does not disclose that the coded media data should be encoded by frames.

In contrast, the present invention only decodes and displays predetermined frames such as I pictures because I pictures can be displayed independently of other frames. (Pg. 49, lns. 1-13) Thus, the frames that are not I pictures can be skipped. This is advantageous because it facilities fast forwarding through the pay-per-view programs that have already been purchased. (Pg. 10, lns. 17 – 20).

Neither *Tsukahara* nor *Darshan* teaches or suggests "storage means for storing the received scrambled content and the storage information." *Tsukahara* only discloses receiving the coded media data but not does not disclose storing the coded media data. Thus, in *Tsukahara*, the coded media data is descrambled and played in a normal mode and is not

otherwise archived. *Darshan* only discloses indexing the data stream after it is played. However, there is no indication that the data stream itself is archived or stored in any location. Thus, the data stream could be re-requested from the source 120 if any trick mode is required. In contrast, in the present invention, the received scrambled content is received and stored in the storage means.

The Office Action admits that *Tsukahara* also does not disclose, where in the particular reproduction mode "said reproduction means reproduces only the predetermined frames descrambled by said descrambling means so that the content is reproduced in a different speed than a speed of reproduction of the normal reproduction mode" and cites to *Darshan* for those features.

However, there is no motivation to combine the references. A person having ordinary skill in the art seeking to allow unauthorized viewers of a pay-per-view program the ability to watch parts of the program for a period of time in order to increase their propensity to subsequently order the pay-per-view program in *Tsukahara*, would not look to an invention which improves the playback performance of a scrambled content by using an index built during playback of the scrambled content in *Darshan*.

As noted in MPEP 2143.01

> If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

This is especially true considering that there is no indication in *Tsukahara* deteriorated images should be shown in any other speed other than normal production speed to entice pay-per-view subscribers. *Tsukahara* also does not teach any structure for implementing and

showing deteriorated images to entice pay-per-view subscribers in any other speed other than normal production speed. Conversely, showing deteriorated images of pay-per-view programs in a fast-forward manner might be detrimental to enticing users to subscribe to the pay-per-view program. With the deteriorated images and the fast-forward manner in which the images are shown, the users may not be comfortable with the pay-per-view program or properly receive a feel for the pay-per-view program. Thus, they may not understand what the program is about and may not want to subscribe to the pay-per-view program. Furthermore, if the pay-per-view program is shown too fast, the user may not want to subscribe to the pay-per-view program because he has already seen too much of the program.

Likewise, *Darshan* is concerned with storing and archiving the program. To deteriorate the images would impact the usability of *Darshan*'s invention since a user will not want to re-play and re-watch deteriorated images.

As the Examiner is aware, the hard question is whether the combination is based upon hindsight from the present teaching rather than what would be obvious apart from the present teaching to a person of ordinary skill in this field.

As set forth in *In re Kahn*, 441 F.3d 977, 987-988 (Fed. Cir. 2006):

> The motivation-suggestion-teaching test picks up where the analogous art test leaves off and informs the *Graham* analysis. [*Graham v. John Deere Co.*, 383 U.S. 1, 13-14 (1966).]
>
> To reach a non-hindsight driven conclusion as to whether a person having ordinary skill in the art at the time of the invention would have viewed the subject matter as a whole to have been obvious in view of multiple references, the Board must provide some rationale, articulation, or reasoned basis to explain why the conclusion of obviousness is correct. The requirement of such an explanation is consistent with governing obviousness law. . . .

* * *

A suggestion, teaching, or motivation to combine the relevant prior art teachings does not have to be found explicitly in the prior art, as "the teaching, motivation, or suggestion may be implicit from the prior art as a whole, rather than expressly stated in the references. . . . The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." However, rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be *some* articulated reasoning with *some* rational underpinning to support the legal conclusion of obviousness. This requirement is as much rooted in the Administrative Procedure Act [for our review of Board determinations], which ensures due process and non-arbitrary decision making, as it is in §103.

Darshan allows the efficient playback of a video after it has been unscrambled by creating an index of the video the first time the video is played. (Co. 8, ln. 54 – Col. 9, ln. 12) It is only concerned with manipulating data after all of the data portions have been unscrambled. For example, the trick mode apparatus 190 receives the plurality of unscrambled data portions 140. (Col. 8, lns. 43 – 47). Thus, *Darshan* does not use the scrambled keys during its trick modes as the data has already been unscrambled. Therefore, *Darshan* is not concerned with performance of the playback during a fast-forward mode while unscrambling the data. The present invention, however, is directed towards efficient processing and decryption of scrambled video data to allow a user to fast forward and decrypt the scrambled video without suffering performance issues. (Pg. 28, lns. 1 – 4).

With respect to Claims 12, 26, and 31, all arguments for patentability with respect to Claim 1 are repeated and incorporated herein.

Furthermore, neither *Tsukahara* nor *Darshan* discloses "list generation means for, when/after storing the received scrambled content by said storage means, generating a list of descrambling keys which includes all of the descrambling keys attached to each frame of the

scrambled content" in Claim 12. *Tsukahara* does not disclose scrambling coded media data in units of frame, but rather only discloses scrambling the coded media data such that it can be displayed in some form of a deteriorated image. Therefore, it does not select a descrambling key that corresponds to a frame nor does it generate a list of descrambling keys which were selected by the scramble processing means. *Darshan* does not disclose generating all of the descrambling keys nor does it disclose that the descrambling keys should be attached to each frame of the scrambled content.

All arguments for patentability with respect to Claim 12 are repeated and incorporated herein for Claims 27 and 32.

The Office Action rejected Claims 15-21, 28, 29, 33, and 34 under 35 U.S.C. §102(e) as being anticipated by *Tsukahara*.

> An anticipating reference must describe the patented subject matter
> with sufficient clarity and detail to establish that the subject matter
> existed in the prior art and that such existence would be recognized
> by persons of ordinary skill in the field of the invention.

See In re Spada, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990); *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 678, 7 USPQ2d 1315, 1317 (Fed. Cir. 1988).

With respect to Claim 15, *Tsukahara* fails to disclose "attaching means for attaching auxiliary information, which is used to generate a list of the descrambling keys, wherein the auxiliary information includes (a) information for identifying each of the frames and (b) each of the descrambling keys selected for the frame." There is no indication that the broadcast unit in *Tsukahara* attaches auxiliary information which can be used by the reception unit to generate the scrambling keys to the ECM. *Tsukahara* only discloses having the broadcast unit send over the

descrambling keys to the reception unit where the reception unit can utilize the descrambling key.

In contrast in the present invention, the broadcast apparatus does not send over the scrambling keys directly, but instead adds auxiliary information to the ECM. The auxiliary information includes identifying information on the scrambled content such as packet numbers so that the reception apparatus can generate a scrambling key list and the scrambling keys. (Pg. 66, lns. 7 – 15)

All arguments for patentability with respect to Claim 15 are repeated and incorporated herein for Claims 28 and 33

With respect to Claim 17, *Tsukahara* does not recite a scramble processing means which "selects one of the descrambling keys for each frame of the content, and scrambles the each frame so that the frame can be descrambled by using the descrambling key selected for the frame" or a "list generation means for generating a list of descrambling keys which includes all of the descrambling keys selected by the scramble processing means." *Tsukahara* does not disclose scrambling coded media data in units of frame, but rather only discloses scrambling the coded media data such that it can be displayed in some form of a deteriorated image. Therefore, it does not select a descrambling key that corresponds to a frame nor does it generate a list of descrambling keys which were selected by the scramble processing means.

All arguments for patentability with respect to Claim 17 are repeated and incorporated herein for Claims 29 and 34.

The Office Action rejected Claim 10 under 35 U.S.C. §103(a) as being unpatentable in view of *Tsukahara*, *Darshan*, and *Ando* (U.S. Patent App. No. 2003/0133699).

The Office Action admitted that *Tsukahara* and *Darshan* does not disclose "I picture judgment means for judging whether the extracted predetermined unit of scrambled content consists of a portion of an I picture/an I picture or not, based on the extracted I picture information."

Ando is directed to a recording/playback system to record video from a digital video datastream and store it for later playback. (Abstract; ¶ 0001).

However, *Ando* also does not disclose "I picture judgment means for judging whether the extracted predetermined unit of scrambled content consists of a portion of an I picture/an I picture or not, based on the extracted I picture information." *Ando* only discloses that the I pictures is located at the head of each set of TS packet and to search for an I pictures address. It does not disclose how it discovers that the I picture is located at the head. In contrast, in the present invention, the broadcast apparatus embeds the information indicative of an I picture in the unscrambled portion in the TS packet and the reception apparatus may make a judgment based on the information. (Pg. 50, ln. 19 – Pg. 51, ln. 6).

Furthermore, there is no motivation to combine the references. A person having ordinary skill in the arts seeking to allow unauthorized viewers of a pay-per-view program the ability to watch parts of the program for a period of time in order to increase their propensity to subsequently order the pay-per-view program in *Tsukahara*, or would not look to an invention which improves the playback performance of a scrambled content by using an index built during playback of the scrambled content in *Darshan*, or an invention directed to a DVD recording/playback system to record video from a digital video datastream in *Ando* for inspiration. This is especially true since *Tsukahara* does not want the user to fully have access to the pay-per-view program, but merely to create a desire to access the pay-per-view program. In

contrast, *Ando* is directed towards recording a program. A recorded program which can be replayed or redistribute without prior authorization would have tensions with a pay-per-view program where the program should not be replayed or redistributed without prior authorization.

Claims 2-11, 13-14, 16, and 18-21, depend from and further define Claims 1, 12, 15, and 17 and are patentable for at least the reasons given.

If the Examiner believes that a telephone interview will help further the prosecution of this case, the undersigned attorney can be contacted at the listed telephone number.

Very truly yours,

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